



# **The Dutch elite athlete and the anti-doping policy 2014 – 2015**

## **International summary**

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Ministry of Health, Welfare and Sport

## International summary

Athletes must comply with the doping regulations adopted by the sports organisations. Broadly speaking, the system seems to work smoothly. However, there is also some resistance among some athletes to the implementation of the anti-doping policy. The Anti-Doping Authority Netherlands (ADAN) periodically surveys Dutch elite athletes to determine their views of this policy.

### Goals

The goals of this study were:

1. to establish a picture of the efficacy, and the perception, of the current anti-doping policy and procedures within the total field of Dutch elite sports;
2. to evaluate the anti-doping policy of ADAN;
3. to establish concrete recommendations with the aim of making doping detection methods more effective and developing educational resources that will prevent unnecessary pressure on the athletes.

### Method

This quantitative study involved the use of a digital questionnaire distributed by research company TNS-NIPO. On this occasion, the 'elite sports doping study' was conducted in partnership with the National Olympic Committee (NOC\*NSF), the NOC\*NSF Athletes' Committee and several national Sports Federations. The study was financed by the Ministry of Health, Welfare, and Sports and conducted in cooperation with the Methods and Statistics department of Utrecht University.

In line with previous years, the 'elite-status athletes' were the main target group. These are athletes who have been granted the official elite status by NOC\*NSF and as such they have shown to be able to place in the top-8 in world championships in their respective disciplines, or can be expected to reach this level in the near future.

For the first time, the group surveyed also included elite Track & Field (T&F) athletes, elite cyclists and a group of other elite athletes, all competing at the highest national level in their respective disciplines. The last group included elite athletes from twelve doping-sensitive sports in which the small population sizes preclude sport-specific analyses: basketball, weightlifting, golf, equestrian sports, judo, korfbal, rugby, ice skating, skiing, tennis, triathlon and volleyball. In the end, 740 'elite-status athletes', 616 elite T&F athletes, 1,545 elite cyclists and 981 other elite athletes were approached for this survey. The 40 respondents from cycling and the twelve from T&F with an elite status were included both in the group of elite-status athletes (to make historical comparisons

possible) and in their own sport-specific group (to establish an overall sport-specific picture). This means that there is a small overlap between the groups of elite-status athletes, T&F athletes and cyclists, causing the results to converge. The group of other elite athletes does not include the corresponding elite-status athletes (since this is not a sport-specific group and so sport-specific conclusions cannot be drawn).

### **Randomised Response**

The doping prevalence questions were established using the 'Randomised Response' method. This method uses randomisation to produce more honest answers to questions that are socially sensitive. This was the first time this method had been used in a study of doping in elite sports in the Netherlands.

#### Theoretical example

A group of 100 people are asked whether they have ever stolen something. Instead of giving a direct answer, these 100 people first flip a coin. Everyone who flips 'heads' and everyone who has ever stolen something answers 'yes'. This means that not everyone who answers the 'yes' will have stolen something. The randomisation mechanism therefore shields the identities of individual respondents, supplementing the standard anonymization procedure.

However, even though we never know the identities of the people who have stolen something, we can estimate how many individuals have done so. An average of 50 people flip 'heads', and the other 50 had to give an honest answer. So if, for example, 60 people answer 'yes', an average of 50 flipped 'heads' (whether they ever stole something or not), ten of them flipped 'tails' and stole something, and forty flipped 'tails' and never stole anything. This means ten out of the fifty people who flipped 'tails' deliberately answered 'yes', and so it can be estimated that 20% of the group as a whole will have stolen something.

#### This study

The same principle was used for this study. However, instead of flipping a coin, the respondents used a computer program that rolled two digital dice (with random results). The questions put to the respondents were:

1. Did you ever use anabolic steroids to enhance your sports performance (in other words, usage was not recreational or for a medical condition)?
2. Did you ever use blood manipulation to enhance your sports performance (in other words, not for a medical condition)?

3. Did you ever use stimulants to enhance your sports performance (in other words, usage was not recreational or for a medical condition)?
4. Did you ever use other prohibited substances or methods to enhance your sports performance (in other words, other substances or methods not covered by the previous questions when usage was not recreational or for a medical condition?)
5. Did you use anabolic steroids to enhance your sports performance in the last twelve months (in other words, usage was not recreational or for a medical condition)?
6. Did you use blood manipulation to enhance your sports performance in the last twelve months (in other words, not for a medical condition)?
7. Did you use stimulants to enhance your sports performance in the last twelve months (in other words, usage was not recreational or for a medical condition)?
8. Did you ever use other prohibited substances or methods to enhance your sports performance in the last twelve months (in other words, other substances or methods not covered by the previous questions when usage was not recreational or for a medical condition?)

*Together with questions #4 and #8 an internet-link was provided to the complete prohibited list of doping substances.*

The answers to the questions were analysed using statistical models to estimate doping-category-specific prevalence rates and overall doping prevalence rates in the categories 'lifetime users' and 'former users'. The category of 'current users' was established by subtracting 'former users' from 'lifetime users'. Although this way of calculating the group of 'current users' seems unnecessarily complicated, it produces results with more statistical power than when using a direct calculation.

### **Doping prevalence: 4.2%**

Dutch elite sport is not doping-free. The best available estimate is that 4.2% of elite-status athletes use doping (all four doping categories combined). This figure is the same for 'lifetime overall doping use' and 'current overall doping use', implying that there are no 'former users'. In terms of the number of athletes, this means that an estimate of 31 of the 740 elite-status athletes currently use one or more categories of doping. Adopting a 95% confidence interval results in a lower limit of 1.8% (13 elite-status athletes) and an upper limit of 8.5% (65 elite-status athletes).

The estimate of the number of doping users in Dutch elite sports is higher than the estimates from previous studies of Dutch elite athletes. This is most probably due to the use of the 'Randomised Response' method.

#### *Lifetime doping usage*

	Lifetime	Confidence interval
Anabolic steroids	2.1%	0.4% - 5.5%
Blood manipulation	3.7%	1.4% - 6.6%
Stimulants	2.6%	0.7% - 5.1%
Other doping	3.3%	1.0% - 5.9%
<b>Doping (total)</b>	<b>4.2%</b>	<b>1.8% - 8.5%</b>

All four doping classes studied (anabolic steroids, blood manipulation, stimulants, other doping) have a lower limit that is above 0%. It can therefore be concluded they have actually been used. The 'blood manipulation' category seems to be used most. Nevertheless, the point estimate of 3.7% is not significantly higher than the estimates of the other doping classes.

Half of the 'lifetime users' in the 'stimulants' category are 'former users'. These athletes said they had used stimulants during their career, but not in the last twelve months. No 'former users' were identified in any of the three other categories. This means that athletes in these other categories who stated they had used a certain category of doping at some time in their career had also used this category of doping in the last twelve months. The conclusion is that, once athletes start to use doping, they hardly ever stop.

Prevalence rates were also calculated for the entire group of 'non-elite-status athletes' (T&F athletes, cyclists, other elite athletes). Unfortunately, the statistical conclusion validity of these estimates was too low to produce reliable doping-category-specific point estimates (for anabolic steroids, blood manipulation, stimulants and other doping). The only point estimate that can be reported relates to overall doping use (in other words, all four doping categories combined) by the 'non-elite-status athletes': 4.3% with a 95% confidence interval of 2.3% - 12.7%.

In addition, it was only in cycling and track & field that the number of respondents was high enough as a basis for the calculation of sport-specific point estimates. However, in these calculations also, the statistical conclusion validity was too low to report reliable point estimates, even for overall doping use. However, the doping category point estimates for the T&F athletes did seem to be slightly below average, and the point estimates for the cyclists appeared to be slightly above average.

Nevertheless, these observations are indicative only, and must not be seen as firm conclusions.

These figures show that, even in 2015, Dutch elite sports include a group of doping users who are presumably persistent users, since there are almost no 'former users'. It therefore remains important to invest in strengthening the Dutch anti-doping culture through not only investigation and enforcement but also through information and education.

### **Doping controls**

Of the elite-status athletes (ESA), 81% never have doubts about the integrity of a doping control. This is a remarkable increase by comparison with 2010 (68%). The cyclists (24%) question integrity more often than the elite-status athletes (19%) and the T&F athletes (17%).

The open comments show that the possible doubts of the elite-status athletes and the cyclists about the integrity of the doping controls are mainly linked to events outside the Netherlands. The T&F athletes and the other elite athletes returned too few open comments to conclude that they share this opinion.

#### *Doubts about integrity of doping control procedure*

	ESA	T&F	Cyclists	Other
Never (0)	81%	83%	76%	89%
Seldom (1)	15%	12%	14%	6%
Sometimes (2)	4%	2%	8%	4%
Regularly (3)	0%	0%	1%	1%
Often (4)	0%	2%	1%	0%
Always (5)	0%	2%	1%	0%
<b>Average</b>	<b>0.23</b>	<b>0.30</b>	<b>0.38</b>	<b>0.17</b>

### **Whereabouts**

The number of elite-status athletes obliged to provide whereabouts information fell from 61% in 2010 to 48% in 2015. Of these 48%, seven out of ten (70%) send their whereabouts information to ADAN.

The number of athletes experiencing problems with supplying whereabouts information (and who answered that these problems had been encountered at least regularly during the previous three months) fell from 38% in 2010 to 15% in 2015, while the number of athletes who never had any problems increased from 4% to 42% in the same period. In 2010, the reported problems were predominantly technical in nature. This seems to have been less the case in 2015.

The athletes appear to see the whereabouts obligation primarily as a major administrative burden. The athletes made a large number of suggestions for improvements to the Whereabouts App and the whereabouts administration website [sportergegevens.nl](http://sportergegevens.nl), establishing sound indications of where steps may be taken to reduce this perceived administrative burden.

The cyclists and T&F athletes felt stronger about the need for a whereabouts system (some need) than the elite-status athletes and other elite athletes (clear need).

#### *Need for whereabouts*

	ESA	T&F	Cyclists	Other
None (0)	18%	1%	4%	13%
Hardly any (1)	17%	6%	4%	15%
Some (2)	24%	24%	18%	33%
Clear (3)	19%	38%	35%	18%
Urgent (4)	18%	30%	35%	15%
No opinion	4%	1%	5%	8%
<b>Score</b>	<b>2.03</b>	<b>2.91</b>	<b>2.98</b>	<b>1.92</b>

#### **Therapeutic Use Exemptions**

The T&F athletes are less aware of the possibility of obtaining Therapeutic Use Exemptions (TUE) than cyclists and the elite-status athletes. This could be the result or cause of the lower number of TUE applications submitted by this group of athletes.

The percentage of elite-status athletes who applied for a TUE increased from 20% in 2010 to 22% in 2015. The number of reported problems fell from 20% to 12%.

#### **Knowledge and positions**

The elite-status athletes, T&F athletes, cyclists and other elite athletes would feel very guilty if they were to use doping, they do not want to permit doping and they find the use of doping during training only slightly less unfair than the use of doping during competition. Furthermore, they believe that using doping could result in major performance improvements in their own sport. They have no pronounced opinion about whether they should report possible doping violations, or about whether the doping rules are clear and effective.

In general, cyclists and athletes see a greater need for changes to the anti-doping policy than elite-status athletes and other elite athletes.

Improvements in the coordination of the international anti-doping policies are at the top of their list in this respect. Anti-doping education is also felt to be important. Furthermore, the athletes argue in favour of more out-of-competition testing.

The athletes do not support a reduction in the pressure to perform at extreme levels (either in terms of the number of events or in terms of the actual performance at those events). The elite-status athletes, T&F athletes and other elite athletes are more outspoken in their opposition in this area than the cyclists. All in all, the respondents provide clear suggestions for ways in which the anti-doping organisations could improve the current anti-doping policy.

On average, athletes now know more about the substances on the prohibited list. The number of correct answers about the status of clenbuterol actually doubled: from 28% in 2010 to 60% in 2015. This can probably be explained by the media interest in this substance over the past few years (which has focused on doping cases and contaminated meat).

Another noticeable finding was that the elite-status athletes were well-informed about the prohibited status of XTC (MDMA) and cannabinoids (weed, hashish). This is probably attributable to the fact that they will have attended more anti-doping education meetings during their careers. The prohibited status of these social drugs is one of the standard topics of conversation at those meetings. However, this explanation is only an assumption. Extra efforts should be made to inform the cyclists, T&F athletes and other elite athletes about the prohibited status of these social drugs.

A genuine area of concern is the number of athletes (including elite-status athletes) who think that signing the doping control form is not required when the athlete disputes the doping control procedure in question. This is incorrect and it could therefore lead directly to a major risk of committing a doping violation. The athletes should be informed about this misconception using all available channels. Furthermore, a lot of athletes believe that medications prescribed by a physician are always allowed. This is also incorrect and it is therefore an issue that should be addressed in future preventive actions.

### **Effect of doping**

Athletes themselves often have a feeling about the extent to which doping affects national and international competition results. Cyclists feel more strongly than T&F athletes, elite-status athletes or other elite athletes that

results are influenced by doping. On a scale from certainly not (0) to certainly (4) they score 2.1 on average for national events. T&F athletes score higher (1.5) than other elite athletes (1.1) and elite-status athletes (1.0).

*Presumed effect of doping use nationally*

Effect	ESA	T&F	Cyclists	Other
Definitely none (0)	32%	20%	9%	25%
Unlikely (1)	36%	29%	16%	35%
Possible (2)	8%	22%	27%	9%
Probable (3)	2%	6%	16%	5%
Certain (4)	7%	9%	14%	5%
No idea	13%	13%	16%	19%
No participation	2%	1%	1%	3%
<b>Average</b>	<b>1.0</b>	<b>1.5</b>	<b>2.1</b>	<b>1.1</b>

On average, the predictions are higher for international events than for national events. Internationally, cyclists score 2.3, T&F athletes 1.8, other elite athletes 1.4 and elite-status athletes 1.4. The conclusion that international events are thought to be more likely to be affected by doping than national events is in line with the findings of previous international studies.

*Presumed effect of doping use internationally*

Effect	ESA	T&F	Cyclists	Other
Definitely none (0)	28%	11%	8%	18%
Unlikely (1)	25%	12%	13%	22%
Possible (2)	18%	13%	23%	16%
Probable (3)	8%	8%	18%	4%
Certain (4)	8%	9%	14%	5%
No idea	13%	9%	14%	16%
No participation	1%	39%	11%	19%
<b>Average</b>	<b>1.3</b>	<b>1.8</b>	<b>2.3</b>	<b>1.4</b>

**Information channels**

Of the elite-status athletes, 98% know ADAN. WADA is known to 86% of the elite-status athletes (2010: 81%). The most important channels for learning about ADAN are the National Olympic Committee (NOC\*NSF) and the national Sports Federations.

The top five channels for anti-doping-related information are ADAN, the medical staff of the national Sports Federations, sports physicians,

internet (general source) and the National Olympic Committee (NOC\*NSF).

Of all the educational sources organised by ADAN the corporate website (dopingautoriteit.nl) and the mobile application (Dopingwaaier App) are used most widely and most frequently. All the educational resources are valued positively by the athletes.

### **100% Dope Free**

The 100% Dope Free program is ADAN's anti-doping prevention programme for Dutch elite sports. This programme is known to 58% of the elite-status athletes and 59% of the cyclists. The programme is less well known among the other elite athletes (43%) and T&F athletes (32%). The best known part of the programme is signing the statement for clean sports and the corresponding golden 100% Dope Free wristband. The statement is signed most by the other elite athletes. The T&F athletes signed the statement least. All parts of the 100% Dope Free programme received a moderately positive score.

### **Food supplements**

Of all elite-status athletes 83% have used at least one supplement in the past year. This percentage was actually slightly higher for the T&F athletes, cyclists and other elite athletes (87%). Vitamin supplements are the most popular (69-72%), followed by protein powders (31-57%), energy drinks (45-61%), minerals (12-42%) and caffeine (25-38%).

The elite-status athletes use 3.8 different supplements a year on average and cyclists use 3.6. This average is lower for the other elite athletes (2.9) and T&F athletes (2.7). The highest number of supplements used by one person was thirteen (cyclist).

Of all elite-status athletes 19% use food supplements without the recommended testing for contamination with prohibited substances (such as NZVT, Informed Sport). This is a direct doping risk for the athletes concerned. This percentage was actually two to three times as high for cyclists (48%) and T&F athletes (54%). This means that clear preventive action is needed to bring the importance of tested supplements to the attention of more elite athletes.